

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LG.PHILIPS LCD CO., LTD.,

Plaintiff/Counterclaim Defendant,

v.

Civil Action No. 05-292 (JJF)

TATUNG COMPANY;
TATUNG COMPANY OF AMERICA, INC.;
CHUNGHWA PICTURE TUBES, LTD.;
AND VIEWSONIC CORPORATION,

Defendants/Counterclaim Plaintiffs.

**PLAINTIFF LG.PHILIPS LCD CO., LTD.'S RESPONSE BRIEF
IN SUPPORT OF ITS PROPOSED CLAIM CONSTRUCTIONS**

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**PLAINTIFF'S RESPONSE BRIEF IN SUPPORT OF
ITS PROPOSED CLAIM CONSTRUCTIONS**

I. INTRODUCTION

In their Opening Brief, Defendants seek to narrow improperly the claims in a manner not required by the claims, the specification, or the prosecution history. In doing so, Defendants repeatedly make three fundamental errors in claim construction: (1) Defendants use the examples and preferred embodiments disclosed in the specifications of the Patents-in-Suit in an attempt to limit the asserted claims; (2) Defendants ignore the doctrine of claim differentiation and improperly read narrow limitations into broad claims; and (3) Defendants rely on extrinsic evidence, in the form of dictionary definitions and expert testimony, to vary or alter the plain and unambiguous language of the claims. Defendants' proposed claim constructions should be rejected.

When the claims at issue are construed properly in light of the intrinsic record, absent artificial limitations, they should be construed as LPL has proposed.

II. ARGUMENT

A. Defendants Ignore Three Well-Settled Canons of Claim Construction

1. Defendants Improperly Import Limitations from the Specifications

As LPL discussed in its Opening Brief, the Federal Circuit has repeatedly warned against limiting the scope of patent claims to only those embodiments discussed in the specification. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc). "Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'" *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d

1313, 1327 (Fed. Cir. 2002)); *see also Playtex Prods., Inc. v. Proctor & Gamble Co.*, 400 F.3d 901, 908 (Fed. Cir. 2005) (directing that “[c]laims of a patent may only be limited to a preferred embodiment by the express declaration of the patentee”); *Arlington Indus. v. Bridgeport Fittings, Inc.*, 345 F.3d 1318, 1327 (Fed. Cir. 2003) (“We have consistently warned against this approach to claim construction, which is seldom justified.”); *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1988) (“References to a preferred embodiment, such as those often present in a specification, are not claim limitations.”). This is because “persons of ordinary skill in the art rarely would confine their definitions of terms to the exact representations depicted in the embodiments.” *Phillips*, 415 F.3d at 1323. This “heavy presumption” that a claim term takes on its ordinary meaning absent an express intent to deviate from that meaning cannot be overcome “simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history.” *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002).

Yet despite this basic tenet of patent law, Defendants seek to limit the construction of numerous claim terms according to preferred embodiments discussed in the specifications of the Patents-in-Suit. As explained below, in most cases Defendants’ theory of claim construction begins and ends with the specification. Even though the claim is a statutory requirement, prescribed for the very purpose of defining the metes and bounds of the invention, Defendants’ position is that if the specification does not expressly recite it, the claim cannot cover it. This has never been the law, and *Phillips* has made clear that it is not now the law. Defendants’ constructions of these terms must therefore be rejected. As discussed below, the terms include:

(1) in the ‘002 Patent—“interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another”; “electrostatic discharge”; “inner

electrostatic discharge guard ring”; “outer electrostatic discharge guard ring”; “resistance”; “pickup pad”; “corner pad”; and “aligning scribe lines with one edge of the corner pad for removing said outer guard ring and row and column intersections”; and

(2) in the ‘121 Patent—“tape carrier package”; “input pad part”; “output pad part”; “pad part extending from the integrated circuit chip”; “bending part”; “bent position”; and “dummy bending part.”

2. Defendants’ Constructions Violate the Claim Differentiation Doctrine

The doctrine of claim differentiation “prevents the narrowing of broad claims by reading into them the limitations of narrower claims.” *Clearstream Wastewater Sys., Inc. v. Hydro-Action, Inc.*, 206 F.3d 1440, 1446 (Fed. Cir. 2000). The Federal Circuit has explained:

There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims. To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant.

Comark Commc’ns, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Tandon Corp. v. United States Int’l Trade Comm’n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987)); *see also Ecolab Inc. v. Paraclipse, Inc.*, 285 F.3d 1362, 1375 (Fed. Cir. 2002) (noting that while claim differentiation presumption is “especially strong” when the limitation at issue “is the only meaningful difference between the two claims,” claim differentiation doctrine applies more broadly because it is premised on the principle that “each claim in a patent is presumptively different in scope” (internal quotation marks omitted)). In *Phillips*, the Federal Circuit reiterated the doctrine of claim differentiation, stating that “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Phillips*, 415 F.3d at 1315. The claim differentiation doctrine is thus

focused on the most important source of wisdom in construing claims - the claims themselves. *Id.* at 1314 (noting that the claims “provide substantial guidance as to the meaning of particular claim terms” and that differences among the claims themselves can be a “useful guide” in applying the doctrine). Indeed, the *Phillips* court relied on the doctrine of claim differentiation in deciding that a limitation inserted by the district court into the first claim was improper. *Id.* at 1324-25 (noting that the dependent second claim added a limitation regarding the angle of the “baffles” in question, so it was “likely” that the angle limitation was not intended to be read into the first claim from which the second claim depended).

Defendants read narrow limitations into broad claims and construe different words or phrases used in separate claim limitations to have the same meaning and scope without support therefore. The Federal Circuit has repeatedly cautioned that this approach is improper. Accordingly, Defendants’ constructions of these claim terms must be rejected. As discussed below, the terms include:

- (1) in the ‘002 Patent—“outer electrostatic discharge guard ring”; and
- (2) in the ‘121 Patent—“bending part”; “bent position”; “dummy bending part”; and “not folded.”

3. **Defendants Improperly Rely on Dictionary Definitions and Expert Affidavits in the Absence of Ambiguity in the Claims**

Defendants’ reliance on extrinsic evidence is improper. As explained in LPL’s Opening Brief, extrinsic evidence (*e.g.*, dictionaries, technical treatises, and expert testimony, as cited by Defendants) is “less significant than the intrinsic record in determining the legally operative meaning of the claim language,” and as such may not be “used to contradict claim meaning that is unambiguous in light of the intrinsic evidence.” *Phillips*, 415 F.3d at 1317, 1324 (internal quotation marks omitted); *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583

(Fed. Cir. 1996) (stating that “it is improper to rely on intrinsic evidence” in cases where “analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term”). Further, the *Phillips* court specifically enunciated the proper use of extrinsic evidence in the form of expert affidavits:

[E]xtrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.

Phillips, 415 F.3d at 1318.

Defendants, however, have not identified any ambiguity in the relevant claim language that is not resolved by the intrinsic evidence. Moreover, the declarations of Dr. Webster Howard, D.I. 138, and Mr. David Holmes, D.I. 139, exceed the bounds of providing technical background and merely reiterate the legal arguments contained in the Defendants’ Opening Brief, arguments that also contradict the intrinsic record.¹ Because Defendants’ use of extrinsic evidence is improper, Defendants’ constructions of the relevant claim terms must be rejected. As discussed below, the terms include:

(1) in the ‘002 Patent—“interconnecting”; “interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another”; “outer electrostatic discharge guard ring”; “coupled to said interconnected row and column lines via a resistance”; “inner electrostatic discharge guard ring”; “resistance”; “removing said guard ring and row and

¹ In rebuttal, LPL has provided herewith the Declarations of Messrs. Holmberg and Bohannon (Exhibits A and B, respectively) should this Court consider the expert affidavits provided by Defendants in this claim construction analysis.

column interconnections”; “pickup pad”; “shunt switching element”; “corner pad”; and “scribe line”; and

(2) in the ‘121 Patent—“tape carrier package”; “output pad part”; “input pad part”; “pad part extending from the integrated circuit chip”; “dummy bending part”; “bending part”; “bent position”; “not folded”; “on the pad part”; “reducing a thermal expansion force and a thermal contraction force generated when thermal pressing the output pad part onto the liquid crystal panel”; “thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip”; and “distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part.”

B. Defendants’ Improper Constructions of the ‘002 Patent

For the reasons set forth in LPL’s Opening Brief, the Court should adopt LPL’s proposed constructions of the disputed claim terms in the ‘002 Patent and reject Defendants’ proposed constructions, which, as discussed below, are premised on fundamental errors in claim construction.

1. “interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another”

This phrase is unambiguous in the intrinsic record. Nevertheless, Defendants have improperly relied on expert testimony and have improperly limited the claim to a preferred embodiment, all in an effort to construe narrowly this phrase in a manner inconsistent with the intrinsic record. Indeed, Defendants’ proposed construction separates this phrase into two distinct phrases without providing any basis in the intrinsic record, construing “interconnecting substantially all of said row lines to one another” to mean “electrically connecting by conductors all, or nearly all, of row lines to one another”; and separately construing “interconnecting . . . substantially all of said column lines to one another” to mean “electrically connecting by

conductors all, or nearly all, of column lines to one another.” Such a construction simply ignores the record before the Court.

First, Dr. Howard’s testimony that LPL’s proposed construction of “interconnecting” as “shorting” is “imprecise” should be rejected because the testimony is without support and is at odds with the specification itself. *See Phillips*, 415 F.3d at 1318 (“[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court” nor is “any expert testimony ‘that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.’” (quoting *Key Pharms. v. Hercon Lab Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998))). As discussed in LPL’s Opening Brief, the specification explicitly states “interconnected (shorted).” *See* D.I. 135 at 13. In contrast, Defendants provide no basis whatsoever for their proposed construction of “electrically connecting with conductors.”

Second, Defendants’ construction of “substantially all” as “all or nearly all” improperly limits the claim to an illustration of a preferred embodiment. Indeed, Defendants explicitly state that “the specification only teaches a situation where all of the rows are connected together serially by jumpers, as illustrated in Fig. 7A.” *See* D.I. 137 at 7. This argument conflicts with one of the fundamental tenets of claim construction, namely that a patent may claim more broadly than the disclosed embodiments. *See, e.g., SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc).

As stated in LPL’s Opening Brief, if construction is deemed necessary, this phrase should be construed as “sufficiently interconnecting said row lines to one another and said columns lines to one another to provide protection from electrostatic discharge.” *See* D.I. 135 at 24. Construing “substantially” in terms of its function is sound practice. *See Cordis Corp. v.*

Medtronic AVE, Inc., 339 F.3d 1352, 1360 (Fed. Cir. 2003) (“substantially uniform thickness” limitation interpreted to require that it achieve its purpose of allowing “uniform expansion of the stent”); *Pall Corp. v. Micron Separation, Inc.*, 66 F.3d 1211, 1217 (Fed. Cir. 1995) (writing that, in interpreting range of “about” 5:1 to 7:1, “[i]t is appropriate to consider the effects of varying that parameter, for the inventor’s intended meaning is relevant”).²

2. “electrostatic discharges”

Defendants’ construction of “flow of electrical current caused by a build-up of static electrical charges,” once again, improperly imports limitations from the specification.³ There are various causes of electrostatic discharges, not limited to “a build-up” of static electrical charges. For example, electrostatic discharges can be induced by a charged body touching the device or by other charges that are suddenly transferred to the circuit. Accordingly, the proper construction for “electrostatic discharges” is “a release of current resulting from a voltage differential caused by static electricity.” *See* D.I. 135 at 22.

² Nevertheless, if this Court accepts Defendants’ proposed construction of “substantially all” as “all or nearly all,” LPL requests that the Court construe the complete claim limitation of “forming a plurality of row and column intersecting pixel activation lines, interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another.” In context of the claim language, “substantially all” should be construed as “substantially all of a plurality” of row and column lines. If, for example, a plurality is three (3) row lines, then interconnecting either two (2) or three (3) of the row lines would be “substantially all.” Indeed, the specification states that “electrostatic discharge can occur when a high static electric potential is coupled across *at least one pair* of the gate lines 18 and the source lines 20.” D.I. 135, Ex. A, at col. 4, ll. 46-49 (emphasis added).

³ During the parties’ meet and confer preceding the *Markman* briefing, Defendants’ counsel agreed that the proper term for construction is “electrostatic discharges” as it appears in the claims. Nevertheless, in Defendants’ Opening Brief, Defendants construe “electrostatic discharge.” *See* D.I. 137 at 7. LPL maintains that, if construction is necessary, this Court should construe “electrostatic discharges” and will use that term in this brief.

3. “outer electrostatic discharge guard ring”

In construing the term “outer electrostatic discharge guard ring” to mean “a ring of conductor, located external to the inner electrostatic discharge guard ring if the two rings are used together, for draining off static buildup to prevent electrostatic discharge,” Defendants have improperly relied on expert testimony and have violated the doctrine of claim differentiation.

First, Defendants admit that a person of ordinary skill in the art can “understand this term based on the description provided by the specification and the prosecution history.” *See* D.I. 137 at 8. Thus, it is indisputable that the intrinsic record is unambiguous, and extrinsic evidence, such as the declaration of Dr. Howard, may not properly be considered. *See Vitronics*, 90 F.3d at 1583.

Second, Defendants’ construction of “outer” to mean “located external to the inner electrostatic guard ring if the two rings are used together” violates the doctrine of claim differentiation by reading the “inner electrostatic discharge guard ring” limitation of dependent claim 8 into independent claim 1. *See Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1123 (Fed. Cir. 2004) (explaining that “the doctrine of claim differentiation ‘normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend’” (quoting *Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971-72 (Fed. Cir. 1999))). Dependent claim 8 plainly adds the limitation, not present in claim 1, of an “inner electrostatic discharge guard ring,” and this Court should not construe claim 1 to already contain this limitation by adopting Defendants’ construction of “outer.”

Defendants also narrowly (and incorrectly) construe the outer electrostatic discharge guard ring as *preventing* electrostatic discharge. Rather, the outer electrostatic discharge guard

ring *protects* the circuit from electrostatic discharge. Further, Defendants' own expert, Dr. Howard, admits that the outer electrostatic discharge guard ring is outside the active matrix. *See* D.I. 138 ¶ 25. Accordingly, for the reasons set forth in LPL's Opening Brief, this Court should adopt LPL's proposed construction of "a closed or open ring, or open L or C-shaped line, outside the active matrix display to provide protection from electrostatic discharges." *See* D.I. 135 at 17-19.

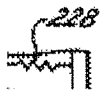
4. "resistance"

Defendants' construction of "resistance" is contrived to narrow the scope of this simple and straightforward claim term by limiting the term to a preferred embodiment and improperly relying on extrinsic evidence. Specifically, Defendants construe "resistance" as follows:

A resistance, as it is used in the claims, means a resistor, which is an electric circuit element that has a specified resistance to the flow of electrical current. A resistance does not include switching elements such as transistors and diodes.

See D.I. 137 at 9.

Defendants argue that "resistance" should be limited to a "resistor" based on the symbol



in Figure 7. Limiting the scope of claims based on structure that appears in drawings, however, is just as improper as importing limitations from the written description. *See, e.g., Playtex*, 400 F.3d at 907 ("By its reliance on the figures, the district court improperly limited [the disputed claim] to a preferred embodiment."). Drawings merely illustrate and cannot be used to add limitations not supported by the language in the patent. In fact, the description of Figure 7 refers to "one embodiment," D.I. 135, Ex. A, col. 3, ll.20-21, and the '002 Patent expressly notes that "[m]odification and variations of the present invention are possible," D.I. 135, Ex. A, col. 8, ll. 49-50. *See, e.g., Prima Tek II v. Polypap*, 318 F.3d 1143, 1148 (Fed. Cir. 2003) ("[T]he mere

fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration.”); *Electro Scientific Indus., Inc. v. Dynamic Details, Inc.*, 307 F.3d 1343, 1349 (Fed. Cir. 2002) (“In the context of the entire specification, [a] depiction . . . in [one of the patent’s figures] does not limit the claim language.”); *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1371 (Fed. Cir. 2002) (“[A]dditional limitations from [a patent’s] figures cannot be imported into the unambiguous claim language.”); *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1342 (Fed. Cir. 2001) (A patent’s drawings were “not meant to represent ‘the’ invention or to limit the scope of coverage defined by the words used in the claims themselves.”).

In this case, as Defendants themselves even point out, the specification of the ‘002 Patent explicitly states that the resistor symbol is merely an illustration: “a large resistance 228, such as 100K ohms (*illustrated schematically*).” See D.I. 135, Ex. A, col. 8, ll. 26-27 (emphasis added). Thus, it is clearly improper for Defendants to import limitations based on Figure 7 into their proposed construction of “resistance.”

Further, despite Defendants’ allegations to the contrary, the prosecution history does not support Defendants’ overly restrictive interpretation. Indeed, use of the term “resistance” in U.S. Patent No. 4,455,739 to J. Hynecek (“Hynecek,” D.I. 137, Ex. 5) is completely consistent with LPL’s proposed construction of “any component used to cause a voltage drop during current flow.” Specifically, Hynecek uses the term “resistance element 11” to refer generally to any component that provides resistance, and uses “resistor” (without reference numeral 11) to connote the specific component. *Id.* at col. 2, ll. 49-66.

Defendants also improperly rely on the declaration of Dr. Howard, absent any ambiguity in the intrinsic record as to the term “resistance.” See *Vitronics*, 90 F.3d at 1583. Moreover, Dr.

Howard's testimony, that "[a]ssigning a descriptor in ohms implies a simple resistor, *i.e.*, an element for which voltage is proportional to current," D.I. 138 ¶ 23, not surprisingly, lacks foundation in any contemporaneous treatises, scientific articles, dictionaries or patents, and is therefore of no use to the Court. *See Phillips*, 415 F.3d at 1318.

Defendants' attacks on LPL's proposed construction of "resistance" are also without merit. First, LPL's broader construction of the term "resistance," in accordance with the intrinsic record, does not render the term indefinite. Indeed, as the Federal Circuit has recently reiterated, "[b]readth is not indefiniteness." *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005) (internal quotation marks omitted). Second, the use in the specification of the word "resistance," along with "transistor," and "switching elements" does not preclude the former from including the latter, just as using the terms "car" and "Chevy" would not so preclude.

Finally, LPL's proposed construction of "any component *used to* cause a voltage drop during current flow" is wholly distinguishable from the *Datamize* case cited by Defendants, in which the court upheld the district court's determination that the phrase "aesthetically pleasing" was indefinite. *See Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 350 (Fed. Cir. 2005). In that case, Datamize "offered no objective definition identifying a standard for determining when an interface screen is 'aesthetically pleasing,'" instead arguing that the court could "adopt a construction of 'aesthetically pleasing' that only depends on the subjective opinion of a person selecting features to be included on an interface screen," and going so far as to argue that the district court erred in requiring an objective definition of "aesthetically pleasing." *Id.* at 1349-50. Thus, the problem in *Datamize* was not that subjective terms are never capable of being construed, as Defendants here seem to suggest, but instead that neither

the intrinsic nor the extrinsic evidence provided any objective standard for measuring the scope of the term in question in the context of the patent. *See id.* at 1351-56.

More importantly, however, “used to cause a voltage drop during current flow” is not subjective, but functional. Not only is the problem solved by the invention, in this case “causing a voltage drop,” the precise context to which *Phillips* instructs the Court to look for the meaning of claim terms, has also been explicitly held to be an appropriate basis for interpreting a claim term. *See Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 25 (Fed. Cir. 2000) (“[T]he claim must be interpreted in light of the teachings of the . . . purpose of the invention . . .”).

Accordingly, this Court should adopt LPL’s proposed construction of “any component used to cause a voltage drop during current flow.” *See* D.I. 135 at 13-14.

5. “coupled to said interconnected row and column lines via a resistance”

Defendants’ proposed construction of “linked through one or more resistors to the interconnected column lines and to the interconnected row lines,” improperly relies on extrinsic evidence, *i.e.*, general dictionary definitions, to contradict the unambiguous intrinsic record. *See Phillips*, 415 F.3d at 1317, 1324 (reiterating that extrinsic evidence is “not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence”).

As discussed above, Defendants’ proposed construction of “resistance” as “resistor” is incorrect. Further, the intrinsic evidence does not support Defendants’ wholesale reworking of the phrase to narrow it into “two distinct sub-limitations.” *See* D.I. 137 at 12. As discussed in LPL’s Opening Brief, Defendants’ separation of “interconnecting substantially all of said row lines to one another and substantially all of said column lines to one another” into two separate phrases is nonsensical and unnecessary. In the case of “coupled to said interconnected row and column lines via a resistance,” however, no similar parallelism exists, *i.e.*, the phrase is *not*

“coupled to said interconnected row *lines via a resistance* and *to said interconnected* column lines via a resistance.” Defendants’ proposed construction impermissibly narrows the clear language of the claim, *e.g.*, by requiring two separate resistors as opposed to “a resistance,” which could include one or more, and should be rejected.

Accordingly, if this phrase is construed, this Court should adopt LPL’s proposed construction of “electrically connected to said interconnected row and column lines via a resistance.” *See* D.I. 135 at 23.

6. **“removing said outer guard ring and row and column interconnections”**

Once again, Defendants’ proposed construction of “electrically disconnecting the interconnections between rows and between columns, and electrically disconnecting rows and columns from the outer guard ring,” improperly relies on extrinsic evidence, in this case the testimony of Dr. Howard, to contradict the unambiguous intrinsic record. *See Phillips*, 415 F.3d at 1317, 1324 (reiterating that extrinsic evidence is “not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence”).

Further, Defendants’ statement that “[t]he only pertinent difference between CPT’s and LPL’s constructions is that LPL construes ‘removing’ to mean physical removal while CPT’s construction requires only electrical disconnection, whether physical removal or otherwise,” D.I. 137 at 12, is misleading. Specifically, Defendants have construed the “removing” limitation to *require* two separate steps, namely: (1) electrically disconnecting the interconnections between rows and between columns; and (2) electrically disconnecting rows and columns from the outer guard ring. Under Defendants’ construction, if the row and column interconnections and the outer guard ring are removed in a single step, this limitation of the claim is not met. Defendants point to no intrinsic evidence to support this very narrow construction, instead using the

physical-versus-electrical disconnection issue to divert attention. Defendants' proposed construction should be rejected.

For the reasons set forth in LPL's Opening Brief, if this phrase is construed, this Court should adopt LPL's proposed construction of "physically disconnecting said guard ring and row and column interconnections." *See* D.I. 135 at 23-24.

7. "pickup pad"

In construing the term "pickup pad" to mean "a pad located at the corner region of a backplane for aligning the frontplane and backplane," Defendants have improperly relied on the unsupported testimony of Dr. Howard to contradict the intrinsic record. *See Phillips*, 415 F.3d at 1318.

Specifically, Dr. Howard states that pickup pad "appears to mean a pad located at the corner region of a backplane for aligning the frontplane and backplane," D.I. 138 ¶ 27, in effect parroting Defendants' proposed construction without citing any support therefore. *See Phillips*, 415 F.3d at 1318 ("[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court" nor is "any expert testimony 'that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.'" (quoting *Key Pharms. v. Hercon Lab Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998))).

Dr. Howard's testimony and Defendants' construction contradict the intrinsic record because the "pickup pad" is not used for aligning the frontplane and backplane. In the '002 Patent, the frontplane and backplane are aligned using "corner 218." *See* D.I. 135, Ex. A, col. 8, ll. 18-20 ("a corner 218 for aligning the backplane with the front plane"). As discussed in LPL's Opening Brief, one of ordinary skill in the art would understand the term "pad" to be a conductive area. The pickup pad "picks up" or transfers the voltage between the back plane and

the front plane, thereby electrically connecting the back plane to the front plane. *See* D.I. 135, Ex. A, at col. 8, ll. 18-39; *see also* Fig. 7.

Accordingly, this Court should adopt LPL's proposed construction of "a conductive area used to electrically connect the back plane to the front plane." *See* D.I. 135 at 14-15.

8. "shunt switching element"

In construing "shunt switching element," to mean "a device that is capable of switching between on and off states (*e.g.*, a transistor or diode) to open or close a by-pass for diverting electrical current," Defendants have improperly relied on extrinsic evidence, in this case a technical dictionary, to contradict the intrinsic record. As discussed above, this is improper; Defendants' proposed construction be rejected.

Specifically, based solely on a narrow definition in the IEEE dictionary, Defendants' construction improperly limits the meaning of the term to a device capable only of switching between on and off states. As discussed in LPL's Opening Brief, nothing in the intrinsic record supports limiting the term in this manner. Defendants' reliance on the statement "A transistor can switch between on and off" from the *Background Technology* section of their Opening Brief is an improper use of extrinsic evidence to construe the explanation of a preferred embodiment in the specification. *See* D.I. 137 at 14. Accordingly, this Court should adopt LPL's proposed construction of "a parallel switching device." *See* D.I. 135 at 15-17.

9. "corner pad"

Defendants' construction of "corner pad" to mean "a pad of metal or other conductive materials that is located at the corner of an outer guard ring, and electrically connected with the outer ring," is contrived to narrow the scope of this straightforward claim term by importing purported limitations from the specification and improperly relying on extrinsic evidence.

First, Defendants' statement that the specification "requires the [corner] pads to be connected to each other by the outer guard ring and grounded to provide an outlet for electrostatic discharge from the outer guard ring," D.I. 137 at 15, mischaracterizes the specification. To the contrary, the specification explicitly states that the corner pad "*can* be grounded." *See* D.I. 135, Ex. A, col. 8, ll. 11-12 (emphasis added). Moreover, nowhere does the intrinsic record state that a corner pad "is part of the outer guard ring for providing ground access to the ring," as Defendants contend. Both the claims and the specification do, however, support that the corner pad provides the alignment for the scribe lines. *See* D.I. 135, Ex. A, col. 8, ll. 12-14, claims 7 and 18.

Given that the meaning of corner pad is unambiguous in view of the intrinsic record, Dr. Howard's baseless testimony that a corner pad "appears to mean a pad of metal located at a corner of the glass substrate, connected to the so-called outer guard ring," D.I. 138 ¶ 28, should be accorded no weight. *See Phillips*, 415 F.3d at 1318.

Accordingly, if construction is necessary, this Court should adopt LPL's proposed construction of "a reference mark for cutting." *See* D.I. 135 at 24.

10. "scribe line"

Defendants' proposed construction of "a predefined line along which the glass substrate can be marked with a sharp tool either to disconnect the conductor patterns along the line or to initiate the fracture of the glass substrate along the line" is based solely on extrinsic evidence, *i.e.*, general dictionary definitions and the unsupported declaration of Dr. Howard. The intrinsic record clearly contradicts the extrinsic evidence. Defendants' construction is wholly improper and should be rejected. *See Phillips*, 415 F.3d at 1318.

Turning to the intrinsic record, scribe lines (depicted as 204 and 206 in Figure 7) are cutting lines based on the corner pad, which is a reference mark for cutting. Defendants' construction of "scribe line" as something that merely disconnects conductor patterns is baseless.

Accordingly, if construction is necessary, this Court should adopt LPL's proposed construction of "cutting line based on reference marks." *See* D.I. 135 at 25.

11. "aligning scribe lines with said corner pad for removing said outer guard ring and row and column intersections"

Defendants' proposed construction of "aligning each scribe line with one edge of the corner pad for disconnecting the outer guard ring and the row and column interconnections" improperly limits the phrase to a preferred embodiment.

Specifically, "corner pad" is improperly narrowed to mean "*one edge* of the corner pad," once again without any discussion of the intrinsic record whatsoever. Indeed, nowhere in the intrinsic record do these words appear. Defendants appear to be referring to the specific embodiment illustrated in Figure 7; however, limiting the scope of claims based on limitations that appear in drawings is just as improper as importing limitations from the written description. *See, e.g., Playtex*, 400 F.3d at 907 ("By its reliance on the figures, the district court improperly limited [the disputed claim] to a preferred embodiment."). In short, Defendants have no basis for this interpretation.

Further, this phrase is not indefinite, because one of ordinary skill in the art would understand that "row and column intersections" means "row and column interconnections." *See Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1331 (Fed. Cir. 2005) (reversing district court's ruling of invalidity based on indefiniteness where "the error was apparent from the face of the patent, and that view is not contradicted by the prosecution history").

12. “inner electrostatic discharge guard ring”

In construing the term “inner electrostatic guard ring” to mean “a ring of conductor, located internal to the outer electrostatic discharge guard ring if the two rings are used together, for draining off electrostatic buildup to prevent electrostatic discharge,” Defendants narrowly (and incorrectly) construe the inner electrostatic discharge guard ring as *preventing* electrostatic discharge. As discussed in LPL’s Opening Brief, Defendants’ construction contradicts the intrinsic record, which discloses that the inner electrostatic discharge guard ring *protects* the circuit from electrostatic discharge. *See* D.I. 135 at 19-20. Further, Defendants attempt to narrow the function of the inner electrostatic discharge guard ring to be limited to “draining off electrostatic buildup,” despite the fact that “electrostatic buildup” is not the only source of electrostatic discharge.

Accordingly, this Court should adopt LPL’s proposed construction of “a closed or open ring, or open L or C-shaped line, inside the outer guard ring to provide protection from electrostatic discharges.” *See* D.I. 135 at 19-20.

13. The Dependency of Claim 18 from Claim 12 Is Apparent from the Face of the Patent

It is apparent from the face of the patent that Claim 18 depends from claim 12, rather than as stated from claim 10. Defendants’ indefiniteness argument that “it is equally reasonable to let claim 18 depend from any of the outer ring claims, including claims 1-9 and 12-16,” D.I. 137 at 18, is self-serving and contradicted by the prosecution history.

First, the language of claim 18 is identical to that of claim 7, which depends from claim 1. Indeed, a review of the patent claims indicates a parallel drafting structure between claims 2-7 and claims 13-18. This parallel structure makes clear to one of ordinary skill that claim 18 should depend from claim 12, not claim 10. During prosecution, the Examiner acknowledged

this understanding of the scope of claim 18, by objecting to both claims 7 and 18 “as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.” *See* D.I. 135, Ex. F, Office Action mailed March 31, 1989, at pp. 3-4.

Thus, because the error in dependency is “apparent from the face of the patent, and that view is not contradicted by the prosecution history,” claim 18 is not indefinite. *See Hoffer*, 405 F.3d at 1331 (reversing the district court’s finding that an error in dependency invalidated the dependent claim).

C. Defendants’ Improper Constructions of the ‘121 Patent

For the reasons set forth in LPL’s Opening Brief, this Court should adopt LPL’s proposed constructions of the disputed claim terms in the ‘121 Patent and reject Defendants’ proposed constructions, which, as discussed below, are premised on fundamental errors in claim construction.

1. “tape carrier package”

Defendants’ construction of “tape carrier package” to mean “an assembly used to connect a driving integrated circuit (D-IC) to the liquid crystal display (LCD) and the printed circuit board (PCB) having a base film, adhesive and metal layer,” is contrived to narrow the scope of this simple and straightforward claim term by limiting the term to a preferred embodiment and improperly relying on extrinsic evidence.

Defendants argue that a tape carrier package should be limited to “three layers” based on the embodiments depicted in Figures 1A, 9 and 11. *See* D.I. 137 at 22. Limiting the scope of claims based on limitations that appear in drawings, however, is just as improper as importing limitations from the written description. *See, e.g., Playtex*, 400 F.3d at 907 (“By its reliance on the figures, the district court improperly limited [the disputed claim] to a preferred

embodiment.”). Drawings merely illustrate and cannot be used to add limitations not supported by the language in the patent. *See, e.g., Prima Tek II*, 318 F.3d at 1148 (“[T]he mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration.”); *Electro Scientific Indus.*, 307 F.3d at 1349 (“In the context of the entire specification, [a] depiction . . . in [one of the patent’s figures] does not limit the claim language.”); *Tate Access Floors*, 279 F.3d at 1371 (“[A]dditional limitations from [a patent’s] figures cannot be imported into the unambiguous claim language.”); *Gart*, 254 F.3d at 1342 (A patent’s drawings were “not meant to represent ‘the’ invention or to limit the scope of coverage defined by the words used in the claims themselves.”). Thus, it is improper for Defendants to import limitations into their proposed construction of “tape carrier package” based on the figures in the ‘121 Patent.

Defendants also improperly rely on the declaration of Mr. Holmes and on a presentation by Koninklijke Philips Electronics NV, notwithstanding the absence of any ambiguity in the intrinsic record as to the term “tape carrier package.” *See Vitronics*, 90 F.3d at 1583. Moreover, Mr. Holmes’ testimony indisputably exceeds the bounds of providing technical background by improperly parroting the legal arguments contained in the Defendants’ Opening Brief, arguments that also contradict the intrinsic record. *See* D.I. 139 ¶¶ 23-26. Further, and not surprisingly, Mr. Holmes’ testimony lacks foundation in any contemporaneous treatises, scientific articles, dictionaries or patents. The Holmes Declaration is therefore of no use to the Court. *See Phillips*, 415 F.3d at 1318.

Defendants’ (and Mr. Holmes’) attacks on LPL’s proposed construction of “tape carrier package” are also without merit. It is well-known that tape carrier packages include chip on film (COF), and not chip on board (COB) or chip on glass (COG). LPL’s broader construction of the

term “tape carrier package” is supported by the intrinsic record and, in the context of the remaining open-ended claim language of the relevant claims, clearly defines the invention. Indeed, LPL’s proposed construction of “an apparatus to connect an integrated circuit chip to the liquid crystal panel and the printed circuit board” finds support throughout the specification. *See, e.g.*, D.I. 135, Ex. B, at col. 2, ll. 2-4 (“bending a tape carrier package (TCP) 10 mounted with a D-IC 8 and connected between a lower glass substrate 3 of the liquid crystal panel 2 and the PCB 6”). LPL’s construction is therefore in accordance with the *Fromson* case, cited by Defendants. *See* D.I. 137 at 23. In fact, it is Defendants’ proposed construction which is contrary to the *Fromson* court’s recognition that “a limitation from the body of the specification is not read into the claims unless the limitation is required to sustain patentability.” *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437, 1443 (Fed. Cir. 1997), *limited in part by Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 n.3 (Fed. Cir. 1998) (en banc).

Accordingly, to the extent a construction is needed, the term “tape carrier package” should be construed to mean “an apparatus to connect an integrated circuit chip to the liquid crystal panel and the printed circuit board.” *See* D.I. 135 at 32-33.

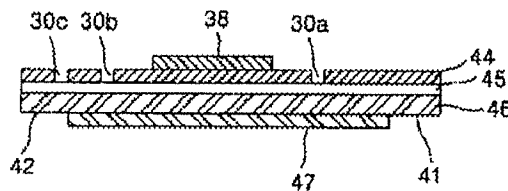
2. “input pad part”; “output pad part”; and “pad part extending from the integrated circuit chip”

The above similar disputed terms and phrases will be addressed collectively because, in all three cases, Defendants attempt to narrow their scope by importing purported limitations from the specification and improperly relying on extrinsic evidence.

Defendants cite to numerous excerpts from the specification as arguable support for their narrowing constructions, which require the input and output pad parts to “relate to the pads formed *on the ends* of the TCP.” *See* D.I. 137 at 23. Those citations do not support this construction. Defendants also try to limit the scope of claims based on preferred structures that

appear in drawings. *See, e.g., Playtex*, 400 F.3d at 907. In this case, however, the embodiment illustrated in Figure 9 (reproduced below) does not, as Defendants contend, limit the pad parts *to the ends* of the TCP.

FIG. 9



To the contrary, the lead lines for the output pad part 42 and for the input pad part 41 are not “at the ends of the TCP,” as required by Defendants’ proposed construction of “the pads located *at the ends* of the TCP which are electrically connected to the integrated circuit chip.” *See* D.I. 137 at 24 (emphasis added). Most significantly, the claim language of “*extending from* the integrated circuit chip” necessitates a broader construction. The imported concept of **electrical** connection does not occur in the claim. Nevertheless, a “connection” is recited via “terminals,” which are a portion of the pad part, thus precluding Defendants’ narrow construction.

Accordingly, with regard to the pad parts, Defendants’ improper practice of importing into the claims contrived limitations from the specification of LPL’s preferred embodiments must fail. When the above claim terms are construed properly in light of the intrinsic record, absent artificial limitations, they should be construed as LPL has proposed. *See* D.I. 135 at 30, 33-35.

3. **“bending part”; “bent position”; “dummy bending part”; “not folded”**

Before addressing the construction of the above disputed terms, Defendants’ premise that “fold,” “folded,” and “folding” have the same scope as “bend,” “bent,” and “bending” must be dispelled. As explained below, this premise finds no support in the intrinsic record, nor in the ordinary meaning of the terms; consequently, the premise can only be proffered by Defendants’ arguments based on their improper reliance on expert testimony, violation of the doctrine of claim differentiation, and improper limitation to preferred embodiments. The common sense interrelationship between the ordinary meaning of these terms is clear. First, all folds are bends, but not all bends are folds. Similarly, folding encompasses bending, but bending is not necessarily folding. Finally, not folded does not mean not bent.

a. **“bending part”**

Defendants’ construction of “bending part” to mean “area of tape carrier package where a portion of the base film is removed where the tape carrier package is to be folded” is contrived to narrow the scope of this simple and straightforward claim term by limiting the term to a preferred embodiment, improperly relying on extrinsic evidence, and violating the doctrine of claim differentiation.

Defendants base “to be folded” on the single embodiment illustrated in Figure 1A. *See* D.I. 137 at 26. Limiting the scope of claims based on structure that appears in drawings, however, is just as improper as importing limitations from the written description. *See, e.g., Playtex*, 400 F.3d at 907 (“By its reliance on the figures, the district court improperly limited [the disputed claim] to a preferred embodiment.”). In attempting to read limitations from the specification into the claims, Defendants also cite to numerous excerpts from the specification, only one of which recites the term “folded.” *See* D.I. 137 at 26.

Further, Defendants' references to the prosecution history have misconstrued the meaning and context of Applicants' successful distinguishing argument over the *Tagusa* reference. *See* D.I. 137 at 27. The cited portion does not identify or even relate to the meaning of "bending part." In the relevant Office Action, the Examiner referred to Figure 6 of *Tagusa* as disclosing a "dummy bending part," as recited in the claim. *See* D.I. 135, Ex. C, Office Action mailed March 24, 2003, at pp. 4-5. The Applicants' distinguishing argument in the response was made simply to show that the substrate 2 of *Tagusa* does not have "dummy bending part." Applicants' statement is not directed to the bending part, and does not consider whether it must be bent or bendable. The Examiner agreed that *Tagusa* simply does not have a "dummy bending part," as argued by Applicants, and thus allowed the '121 patent. Defendants' argument must fail.⁴

It is indisputable that the plain and ordinary meaning of the terms "bent" and "folded" are clearly distinct, and neither the specification nor the prosecution history requires otherwise.

Defendants also improperly rely on the declaration of Mr. Holmes, notwithstanding the absence of any ambiguity in the intrinsic record as to the term "bending part." *See Vitronics*, 90 F.3d at 1583. Moreover, Mr. Holmes' testimony indisputably exceeds the bounds of providing technical background by improperly parroting the legal arguments contained in the Defendants' Opening Brief, arguments that also contradict the intrinsic record. *See* D.I. 139 ¶¶ 39-42. Further, and not surprisingly, Mr. Holmes' testimony lacks foundation in any contemporaneous

⁴ It should be noted that Figure 6 of *Tagusa*, on page 27 of Defendants' Opening Brief, D.I. 137 at 27, is not an accurate reproduction. Among other inconsistencies, Defendants' version of Figure 6 conceals with highlighting the cross hatching of portions 2B and 2C to suggest that they are differing material than the adjacent materials. In fact, portions 2B and 2C are thinner portions of the substrate 2 of *Tagusa*.

treatises, scientific articles, dictionaries or patents, and is therefore of no use to the Court. *See Phillips*, 415 F.3d at 1318.

Lastly, as addressed in LPL's Opening Brief, D.I. 135 at 27, claim 1 recites that a bending part exists "at a bent position," and later *in the same claim* uses the term "folded" in reference to the position of the dummy bending part. Where claims use different terms, especially in the same claim, those differences are presumed to reflect a difference in the scope of the claims. *See Bancorp Servs., LLC v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004) ("[T]he use of [two] terms in close proximity in the same claim gives rise to an inference that a different meaning should be assigned to each."); *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1296 (Fed. Cir. 2002) (finding that where two terms "have distinct meanings [and e]ach term appears in claim language[, e]ach therefore imparts a different scope to the claim in which it appears," particularly where "the specification treat[ed] the two terms differently").

Accordingly, the court should adopt LPL's proposed construction of "a bendable part of the tape carrier package where the base film is removed." *See* D.I. 135 at 26-27.

b. "bent position"

Similarly, Defendants' proposed construction of "bent position" to mean "location on the tape carrier package where the tape carrier package is folded," D.I. 137 at 27-28, limits the term to a preferred embodiment, improperly relies on extrinsic evidence, and violates the doctrine of claim differentiation.

Significantly, absent any basis except for Mr. Holmes' unsupported declaration, Defendants argue that "bent" should exclude "slight bent." *See* D.I. 137 at 28. Most telling, however, is Defendants' omission of claim 14 when arguing that "[m]any of the claims of the '121 patent (all except for claims 5, 9, and 10) require a bending part in which a portion of the base film is removed at a *bent position*." *See* D.I. 137 at 27 (emphasis in original). In claim 14,

the bending part is not claimed to be at a “bent position,” but rather is at “an area where the tape carrier package *is folded*.” “There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.” *Comark Commc’ns*, 156 F.3d at 1187 (internal quotation marks omitted). Defendants have presented no evidence to rebut this presumption, instead choosing to ignore completely claim 14. Accordingly, Defendants’ proposed construction should be rejected.

To the extent any construction is necessary, the plain and ordinary meaning of this term should apply and “bent position” should mean “position that is not flat.” *See* D.I. 135 at 34.

c. “dummy bending part”

Defendants’ proposed construction of “dummy bending part” to mean “area on TCP where a portion of the base film is removed between either the input or output pad part and the driving integrated circuit where the tape carrier package is not folded,” D.I. 137 at 28-30, limits the term to a preferred embodiment, improperly relies on extrinsic evidence, and violates the doctrine of claim differentiation.

First, in attempting to read limitations from the specification into the claims, Defendants cite to numerous excerpts from the specification, none of which states that the dummy bending part is “between either the input or output pad part and the driving integrated circuit.” *See* D.I. 137 at 26. Defendants’ statement that “the clear and unambiguous language of the specification dictates that the dummy bending part must be located between the input or output pad part and the D-IC” is incorrect. It is the claims, not the specification, which define the metes and bounds of the invention. *See Phillips*, 415 F.3d at 1323.

Second, Defendants’ citations to the prosecution history do not relate to the construction of “dummy bending part,” but rather to the completely separate limitation “wherein the dummy bending part is formed at a position, close to the pad part, where the tape carrier package is not

folded.” *See* D.I. 137 at 28-29. Significantly, this limitation is not included in all claims (*e.g.*, claims 2 and 8) and, as such, Defendants’ importation of this limitation into the term “dummy bending part” violates the doctrine of claim differentiation because such a construction would make the claim limitation superfluous. As discussed above, the doctrine of claim differentiation “prevents the narrowing of broad claims by reading into them the limitations of narrower claims.” *Clearstream*, 206 F.3d at 1446. As the Federal Circuit has explained:

There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims. To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant.

Comark Commc’ns, 156 F.3d at 187 (quoting *Tandon Corp. v. United States Int’l Trade Comm’n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987)). Thus, Defendants’ proposed construction cannot stand.⁵

Defendants’ attacks on LPL’s proposed construction of “dummy bending part” are also without merit. Contrary to Defendants’ contentions, *see* D.I. 137 at 30, LPL’s construction of “a bendable part of the tape carrier package where the base film is removed, which has a function other than bending,” is not improper under *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358 (Fed. Cir. 2001). Significantly, as the Federal Circuit made clear in *Medrad Inc. v. MRI Devices Corp.*, 401 F.3d 1313 (Fed. Cir. 2005), *Ecolab* does not support “the broad proposition that it is

⁵ Once again, Defendants improperly rely on the declaration of Mr. Holmes, even though there is an absence of ambiguity in the intrinsic record as to the term “dummy bending part.” *See Vitronics*, 90 F.3d at 1583. Moreover, Mr. Holmes’ testimony indisputably exceed the bounds of providing technical background by improperly parroting the legal arguments contained in the Defendants’ Opening Brief, arguments that also contradict the intrinsic record. *See* D.I. 139 ¶¶ 12-14. Further, Mr. Holmes’ testimony lacks foundation in any contemporaneous treatises, scientific articles, dictionaries or patents. The Holmes Declaration is therefore not useful to the Court. *See Phillips*, 415 F.3d at 1318.

never proper for a court, when construing claim terms, to consider how a claimed device functions.” *Id.* at 1319. According to the Federal Circuit,

‘ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.’ *It is therefore entirely proper to consider the functions of an invention in seeking to determine the meaning of particular claim language.*

Id. (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)) (emphasis added). *See* D.I. 125 at 27-29.

Accordingly, this Court should adopt LPL’s proposed construction of “a bendable part of the tape carrier package where the base film is removed, which has a function other than bending.” *See* D.I. 135 at 27-29.

d. “not folded”

Yet again, Defendants’ proposed construction of “not folded” to mean “substantially flat area of the tape carrier package,” D.I. 137 at 31, reads purported limitations from the specification into the claim term, improperly relies on extrinsic evidence, and violates the doctrine of claim differentiation.

Significantly, clearly ignoring the doctrine of claim differentiation, Defendants argue that “not folded” means “not at a bent position,” even though “folded” and “bent position” are used in separate claims. *See* D.I. 137 at 31. “There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.” *Comark Commc’ns*, 156 F.3d at 1187 (internal quotation marks omitted). Because Defendants have presented no evidence to rebut this presumption, Defendants’ proposed construction should be rejected.

Further, absent any basis except for Mr. Holmes’ unsupported declaration, Defendants argue that “not folded” means “substantially flat.” *See* D.I. 137 at 31. Defendants’ reliance on

the declaration of Mr. Holmes, even though there is an absence of ambiguity in the intrinsic record as to the term “not folded” is clearly improper. *See Vitronics*, 90 F.3d at 1583. Moreover, Mr. Holmes’ testimony indisputably exceeds the bounds of providing technical background by improperly parroting the legal arguments contained in the Defendants’ Opening Brief, arguments that also contradict the intrinsic record. *See* D.I. 139 ¶¶ 46-47. Further, and not surprisingly, Mr. Holmes’ testimony lacks foundation in any contemporaneous treatises, scientific articles, dictionaries or patents. The Holmes Declaration is therefore of no use to the Court. *See Phillips*, 415 F.3d at 1318.

To the extent any construction is necessary, the plain and ordinary meaning of this term should apply and “not folded” should mean “not making a fold.” *See* D.I. 135 at 35.

4. “on the pad part”

Defendants’ proposed construction of the unambiguous phrase “on the pad part” as “on top of the output pad part” improperly relies on extrinsic evidence, *i.e.*, general dictionary definitions and the unsupported declaration of Mr. Holmes. Not surprisingly, Defendants do not even attempt to pay lip service to the intrinsic record to support their narrow “output pad part” importation, which clearly contradicts the extrinsic evidence. Defendants’ construction is improper and should be rejected. *See Phillips*, 415 F.3d at 1318.

Further, Defendants’ recognition here of the doctrine of claim differentiation is curious, given their prior avoidance of the doctrine in proffering their definitions of such terms as “outer electrostatic discharge guard ring”; “bending part”; “bent position”; “dummy bending part”; and “not folded.” Moreover, Defendants’ argument is misplaced, because claim 14, from which only claim 15 depends, is significantly different in scope from the other claims that recite the term “close to.” *See Paraclipse*, 285 F.3d at 1375 (noting that while claim differentiation presumption is “especially strong” when the limitation at issue “is the only meaningful

difference between the two claims,” claim differentiation doctrine applies more broadly because it is premised on the principle that “each claim in a patent is presumptively different in scope” (internal quotation marks omitted)).

To the extent any construction is necessary, the plain and ordinary meaning of this phrase should apply, and “on the part” should be construed as “at or along, or in proximity to, the pad part.” *See* D.I. 135 at 36-37.

5. **“reducing a thermal expansion force and a thermal contraction force generated when thermal pressing the output pad part onto the liquid crystal panel”; “thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip”; and “distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part”**

Defendants’ contention that the above disputed phrases are indefinite lacks merit. The specification discusses that thermal pressing the tape carrier package to the liquid crystal display panel creates thermal expansion and contraction forces, and that the invention reduces these forces. *See, e.g.*, the ‘121 Patent at col. 2, ll. 30-59. Further, the specification is clear that the thermal pressing causes the thermal expansion that stresses the liquid crystal display panel. *Id.* A detailed description of how to identify or measure forces, or calculate or determine stress is simply not required.

Defendants’ proposed construction of “a reduction of a thermal expansion force and the thermal contraction force generated when thermal pressing the output pad part of the tape carrier package onto the liquid crystal panel” is unnecessarily narrow because, absent any support in the intrinsic record, it requires that the thermal expansion and contraction forces are created only when the output pad part is thermal pressed.

Defendants’ proposed construction of “distributing a stress applied to the liquid crystal panel that results from the thermal pressing of the output pad part of the tape carrier package on

the liquid crystal panel” narrows “pad part” so that it becomes “output pad part.” This overly narrow construction violates the doctrine of claim differentiation because the term “output pad part” does not appear in all of the claims. As discussed above, the doctrine of claim differentiation “prevents the narrowing of broad claims by reading into them the limitations of narrower claims.” *Clearstream*, 206 F.3d at 1446.

Defendants’ proposed construction of “a reduction of a thermal expansion force and the thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip” likewise improperly narrows that claim by construing the language, *i.e.*, “thereby reducing,” into an ambiguous “reduction” limitation, absent any basis whatsoever.

The Examiner’s presumption of inherency of functional limitations has no bearing whatsoever on this Court’s *Markman* determination, and Defendants’ argument to the contrary is fatally flawed. D.I. 137 at 34. Indeed, Defendants cite no authority in support thereof. Functional limitations in apparatus claims cannot be ignored. It is black letter law that functional language is an additional limitation in the claim. *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1363 (Fed. Cir. 1999) (citing *Wright Med. Tech., Inc. v. Osteonics Corp.*, 122 F.3d 1440, 1443-44 (Fed. Cir. 1997)).

Defendants’ constructions should therefore be rejected.

When the claims at issue are construed properly in light of the intrinsic record, absent artificial limitations, they should be construed as LPL has proposed. *See* D.I. 135 at 29-32, 35-36.

III. CONCLUSION

For the reasons set forth above, along with the reasons set forth in LPL's Opening Brief, LPL requests that the Court reject Defendants' proposed constructions of the disputed claim terms and adopt the constructions set forth in LPL's Opening Brief.

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